

# ORIGIN<sup>®</sup> 8.5

Data Analysis and Graphing Software

## Reasons to Upgrade\*

### Productivity

Version: 8.5 8.1 8.0

	8.5	8.1	8.0
Batch Processing with Summary Report Using Analysis Templates™	✓	✓	
Batch Peak Fitting of Multiple Datasets Using Peak Analyzer Theme	Pro	Pro	
Favorites Folder in Project Explorer	✓	✓	
Slide Show of Graphs at any Folder Level	✓	✓	
Share Files Using User Files Folder Across Multiple Computers	✓	✓	
Improved File Transfer Dialog for Upgrade Users	✓	✓	
Theme Support for Worksheets and Matrix Sheets	✓	✓	✓
Theme Support to Save Dialog Settings	✓	✓	✓
Recalculation of Results on Data or Parameter Change	✓	✓	✓
Analysis Templates™ with Custom Report Sheets for Repeat Analysis	✓	✓	✓
Consolidated Reports with Collapsible Tables	✓	✓	✓
Re-Import Data Files Using Saved Settings, to Update Worksheet or Matrix Data	✓	✓	✓
Share Files Using Group Folder	✓	✓	✓
Autosave Projects to Temporary File	✓	✓	✓
Theme Support for Graphs	✓	✓	✓
Import Wizard Filter for Repeat Import of Similar Data	✓	✓	✓
Batch Print Selected Worksheets, Graphs, and Layout Windows	✓	✓	✓

### User Interface

	8.5	8.1	8.0
Zoom and Pan on Graphs, Worksheets, Matrices and Layouts	✓		
Embed and Edit MS-Word, Excel and Equation Objects inside Origin Graphs and Layouts	✓		
Customizable Data Information Display Window	✓		
Thumbnail and Metadata Support for Matrices	✓		
Password Protection at Project Level	✓	✓	
Audit Log of Project Saves, with Optional Password Protection	✓	✓	

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	8.5	8.1	8.0
Menu Customization: Add New Menu Items or Remove Existing Ones	✓	✓	
Shortcuts for Windows in Project Explorer	✓	✓	
Toolbar for Data Markers and Locks	✓	✓	
GUI for Defining Variables in Set Values Dialog	✓	✓	
Full-Screen View for Graphs, with Aspect Ratio Maintained	✓	✓	
Global Setting for Significant Digits	✓	✓	
Workbooks and Matrices with Multiple Sheets and Rich Text Cell Formatting	✓	✓	✓
Long Name Support for Windows and Worksheet Columns	✓	✓	✓
Sparklines on Column Headers Display Small Graph of Data for Quick Inspection	✓	✓	✓
Embed Graphs, Images, and Notes in Worksheet Cells	✓	✓	✓
Insert Links in Worksheet Cells to Other Cells, Including Report Sheets	✓	✓	✓
Sampling Interval Support in Y Column for Evenly Spaced X Values	✓	✓	✓
Workbook Organizer Panel for Workbook/Column Properties and Metadata	✓	✓	✓
Drag Range Selection to Automatically Extend or Duplicate Data	✓	✓	✓
Drag and Drop Sheets to Remove from, or Add to, Workbooks	✓	✓	✓
Click-and-Drag to Adjust Row Height and Column Width in Worksheets and Matrices	✓	✓	✓
Auto-Size Option for Worksheet and Matrix Columns	✓	✓	✓
Multiple Matrix Objects in a Single Matrix Sheet	✓	✓	✓
Cursor Tool and Data Information Box with Support for Multiple Cursors	✓	✓	✓
Tool to Annotate a Specific Data Point	✓	✓	✓
Regional Data Selector/Mask Tool	✓	✓	✓
Categorized Flyout Toolbar Buttons	✓	✓	✓
Lock Icon on Output Columns to Indicate Recalculate Mode: Manual or Auto	✓	✓	✓
Preview of Results in Analysis Dialogs	✓	✓	✓
Quick Help Window with Keyword Search	✓	✓	✓
Option to Switch Language of Interface	✓	✓	✓
New Pack/Unpack Tool with New OPX File Format	✓	✓	✓
Control+Select Non-adjacent Worksheet Columns	✓	✓	✓



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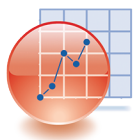
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In-Place Text Editing	✓	✓	✓
Click-and-Drag to Resize and Rotate Text and Drawing Objects	✓	✓	✓
Drawing Tools, Including Poly-Line, Freehand, Polygon, Free-Form	✓	✓	✓
Plot Setup Dialog Simplifies Plotting Data From Multiple Worksheets	✓	✓	✓
Graph Template Library	✓	✓	✓
Formatting Support for Multiple Selected Objects	✓	✓	✓
Formatting (Style) Toolbar for Text and Object (Color, Hatch Pattern, Font, Size)	✓	✓	✓
Organize Large Projects with Project Explorer	✓	✓	✓

### Import and Export

	8.5	8.1	8.0
Import Data in EDF and BDF formats	✓		
Import of Multiple Images in the Same Matrix Sheet	✓		
Export All Graphs in Project Explorer to Power Point	✓	✓	
Export Worksheet as a Multi-Page PDF Document	✓	✓	
Export ASCII Data to Existing File with Append or Replace Options	✓	✓	
Import Data in Unicode ASCII, CDF, and HDF5 Formats	✓	✓	
Import Excel, Multi-line CSV and Binary 2D Array	✓	✓	✓
Graphically Construct SQL Queries, Save Named SQL Query	✓	✓	✓
New Import Options: pCLAMP 2.0, NI DIAdem/TDM, ETAS MDF, JCAMP-DX, NetCDF & More	✓	✓	✓
Import Wizard: Multiple Delimiter Support and Variable Extraction	✓	✓	✓
Import Wizard: Improved and Expanded Variable Extraction	✓	✓	✓
ASCII and Binary Import Wizard Provides Visual Feedback during Import	✓	✓	✓
Drag-and-Drop Data Files from Windows Explorer into Origin	✓	✓	✓
Import Data from MINITAB <sup>®</sup> , SigmaPlot <sup>®</sup> , and Thermo Galactic <sup>®</sup> SPC Files	✓	✓	✓
Import and Export Image (Raster) Files	✓	✓	✓
Graph Export Formats: AI, CGM, EPS, TIFF, PDF, JPEG, EMF, PSD, & More	✓	✓	✓

### Graph Types

Version: 8.5 8.1 8.0

	8.5	8.1	8.0
3D Vector	✓		
3D Error Bars	✓		
Contour or 3D Plot from Worksheet Data (Virtual Matrix)	✓		
Ternary Contour Plot	✓	✓	
Probability Plot/Q-Q Plot Including Weibull Distribution	✓	✓	
GUI to Configure Multiple Y-Axes Plot	✓	✓	
Centered-Axis Scatter Plot	✓	✓	
Windrose Plot: Generated from Raw or Binned Data	✓	✓	
Contour Plot from XYZ Data Using Triangulation	✓	✓	✓
Polar Contour Plot	✓	✓	✓
Stacked Lines Plot Using Y-Offset	✓	✓	✓
Scatter Matrix Plot	✓	✓	✓
Inset Graph and Offset Axes Templates	✓	✓	✓
Image Graphs with Profile Lines, and Image Histograms	✓	✓	✓
Column Scatter Graph, 2D/3D Pie Chart, Smith <sup>®</sup> Chart	✓	✓	✓
YXY Vector (Tail-to-Head Data)	✓	✓	✓
Basic 2D, 3D, Contour, and Statistics Graphs	✓	✓	✓

### Graph Customization

	8.5	8.1	8.0
Transparency and Gradient Fill Control for Graph Objects	✓		
Z-axis Support, Including Non-Linear Scales, for Waterfall Plots	✓		
Y- and Z- Value Color Map Support for Waterfall Plots	✓		
Ternary Contour Plot with Flexible Scale	✓		
Apply Color Map to a Matrix Using Z-Values from Another Matrix	✓		
In-Plane Axis Titles and Tick Labels for 3D Graphs	✓		
Multiple Intersecting Surfaces in 3D Graphs	✓		
Color Scale Object Is Available for Matrix 3D Bar Plot	✓		
Skip Points Allowed for Error Bars	✓		



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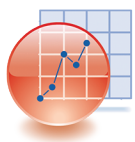
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Masking Support in Line Plots	✓	✓	
Double-Log Reciprocal Axis Scale, $\ln(-\ln(1-x))$ , for Weibull Plot	✓	✓	
Missing Value and Grid-Line Skip Support for 3D Surface Plots	✓	✓	
Color Mapping of 3D Bar Plots Using Z Values	✓	✓	
Major and Minor Level Support for 3D Surface and Contour Plots	✓	✓	
Improved Support for Color Palettes for Contour Plots	✓	✓	
Select and Customize Single Data Points in a Plot	✓	✓	
Add or Modify Layer Title Text Object Attached to Layer	✓	✓	
Extract Data Points for Any or All Contour Lines	✓	✓	
Align and Size Multiple Layers and Text Using Object Edit Toolbar	✓	✓	
Use Column Long Name, Units, and Comments for Axis Titles and Legend	✓	✓	✓
Add Tables to Graphs, Parameter Values May Be Linked to Worksheets	✓	✓	✓
Copy-and-Paste Table from Worksheet into Graphs as a Table	✓	✓	✓
Worksheet Parameter Row for Annotating Each Curve in 2D Waterfall Graphs	✓	✓	✓
Custom Boundary for Contour Graphs Using Datasets	✓	✓	✓
Plot Same Column Multiple Times, Such as Different Ranges, in a Single Graph Layer	✓	✓	✓
Speed Mode Dialog for Controlling Speed Mode Settings of Graphs in the Project	✓	✓	✓
Automatically Create a Single Legend for All Layers in Graph	✓	✓	✓
Copy and Paste the Format of One Graph Element onto Another	✓	✓	✓
Customize the Format Increment Lists and Color Palettes for Grouped Data	✓	✓	✓
Edit Many Data Plot Properties Using the Style Toolbar	✓	✓	✓
Legend Displays Individually Edited Data Points	✓	✓	✓
Apply Color Palette to Image View of Matrix Data	✓	✓	✓
Manually Specify Tick Marks and Tick Labels for an Entire Axis	✓	✓	✓
Color Scale Object Supports Label Increments	✓	✓	✓
Offset Plotting of Duplicate Points	✓	✓	✓

### Graph Customization

Version: 8.5 8.1 8.0

	8.5	8.1	8.0
Expanded Set of Built-In Symbols (Approximately 100)	✓	✓	✓
Individual Contour Line and Level Control	✓	✓	✓
Use Color Variations or Symbol Size to Represent Another Dimension	✓	✓	✓

### Data Handling

	8.5	8.1	8.0
Improved Image Profile Tool	✓		
New Find and Replace Tool	✓	✓	
Unstack Worksheet Columns Using Grouping Variables	✓	✓	
Recalculate Support for Worksheet Data Extraction	✓	✓	
Remove Duplicate Data, or Delete Rows by Skipping	✓	✓	
Reduce Data using Subgroup Statistics on X, or to Evenly Spaced X Values	Pro	Pro	
Trim Missing Values in a Worksheet	✓	✓	
Merge XY Data According to X Values	✓	✓	✓
Data Fill: Drag Fill Handle to Auto-Fill Data, Duplicate or Extend Values	✓	✓	✓
Script-Enabled Set Column Values Dialog with Range Variable Support	✓	✓	✓
Custom Date and Time Formatting Saved with Workbook	✓	✓	✓
Split Color Image Into RGB Channels	Pro	Pro	Pro
Intensity/Color Adjustment for Images	Pro	Pro	Pro
Spatial Image Filter (Blur, Noise, Sharpen, Edge Detect)	Pro	Pro	Pro
Image Rotate, Flip, Shear, Auto Trim	✓	✓	✓
Categorical Data Support (Nominal and Ordinal)	✓	✓	✓
Image View of Data in Matrix Window	✓	✓	✓
Random and Regular XYZ to Matrix Conversion	✓	✓	✓
2D Binning of Worksheet Data	✓	✓	✓



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### Data Analysis

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New Gadgets for Graphical Analysis: Regional Statistics, Differentiation and Interpolation	✓		
New Fitting Function Builder	✓		
2D FFT Filter	Pro		
Specify Parameter Bounds as a Percentage of the Parameter, for NLSF and Peak Analysis	✓		
Improved Peak Analyzer Wizard	✓		
Gadgets for Graphical Analysis: Quick Fit, Stats, Integration, Rise-Time, FFT	✓	✓	
Pivot Table Feature	✓	✓	
Normalization Across Multiple Columns or Curves	✓	✓	
Linear Fit with Support for X-Error	Pro	Pro	
Compute Surface Area of Matrix Data	Pro	Pro	
Create Upper and Lower Envelopes for Curves	Pro	Pro	
New Functions for Set Column Values Including Date/Time and String Functions	✓	✓	
Support for Periodic Data in 2D Binning	✓	✓	
Rotated 2D Gaussian Function for 2D Surface Fitting	Pro	Pro	
Better Support and More Functions for Manipulating Complex Numbers	✓	✓	✓
Analysis Markers to Indicate Range Used for Analysis	✓	✓	✓
Command-Level Access to Data Analysis Routines	✓	✓	✓
Support for Smoothing in Curve Differentiation Tool	✓	✓	✓
Fitting Function Organizer	✓	✓	✓
Partial Leverage Plot in Multiple Regression	✓	✓	✓
Improved Residuals Analysis with Additional Residuals Plots	✓	✓	✓
Improved Find- X/Find- Y Tool for Linear, Polynomial, and Nonlinear Fitting	✓	✓	✓
New Find- Z Tool for Nonlinear Surface/Matrix Fitting	Pro	Pro	Pro
Automatic Fitting Comparison	Pro	Pro	Pro
Surface Fitting and 3D Interpolation	Pro	Pro	Pro
Image Analysis (Image Math, Mode Conversion, Color to RGB)	Pro	Pro	Pro

### Data Analysis

Version: 8.5 8.1 8.0

	8.5	8.1	8.0
Signal Processing: FFT, 5-Types FFT Filter(Low- Pass, High- Pass, Band- Pass, Band- Block, and Noise Threshold)	✓	✓	✓
Enhanced Signal Processing: 2D FFT, Wavelet, STFT	Pro	Pro	Pro
Basic Statistics: Normality Test, Parametric Hypothesis Tests, ANOVA	✓	✓	✓
Enhanced Statistics: Nonparametric Hypothesis Tests, Repeated Measure ANOVA, Survival Analysis	Pro	Pro	Pro
Peak Analyzer - Create Baseline, Find or Integrate Multiple Peaks	✓	✓	✓
Peak Analyzer - Find and Fit Multiple Peaks	Pro	Pro	Pro

### Application Connectivity

	8.5	8.1	8.0
Automation Server Support	✓	✓	✓
Mathematica Link	✓	✓	✓
Matlab Console with GUI Support to Transfer Data Between Origin and Matlab	✓	✓	✓
LabVIEW Connectivity: Send Data to Origin using LabVIEW™ VIs for Origin	✓	✓	✓

### Programming

	8.5	8.1	8.0
LabTalk: Support for User-Defined Functions	✓	✓	
Labtalk: Support for Event-triggered Script Execution	✓	✓	
Labtalk: LabTalk: More Data Types Supported, Including New Range Data Type	✓	✓	✓
Easy Creation of Custom Tools with Automatic GUI, Using X-Functions	✓	✓	✓
Execute X-Functions from LabTalk Scripts and Menus	✓	✓	✓
Command Window with Auto-Complete Support for Scripting	✓	✓	✓
History Log Displays Previous Script Commands Entered	✓	✓	✓
Origin C: Create Custom Dialogs for Your Routines	✓	✓	✓
Origin C: User-Defined Classes	✓	✓	✓
Origin C: Access to *Full NAG <sup>®</sup> Mark VII Library	✓	✓	✓
Origin Project (.OPJ) Files Accept Any Type of File Attachment	✓	✓	✓
C Compiler with ANSI C Language and Origin Object Support	✓	✓	✓
Code Builder Interface for Color-Coded Editing and Debugging	✓	✓	✓
File Packing/Unpacking Utility with Drag-and-Drop Installation	✓	✓	✓
Run Tools and Wizards Created with MS VC	✓**	✓**	



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